**Algebra 2 GHP Midterm**

**2012**

Please put the following information on your answer sheet:

A. Name

B. Class Period

C. Test Number

Directions:

1. There is only one (1) answer to a question. It must be the most complete and correct answer.
2. Make a heavy mark on the answer sheet over the letter that answers the question. Use a No. 2 pencil and make sure to carefully erase any changes you make.
3. You MAY write in your test booklet. Scrap paper will also be provided and can be thrown away at the end of the exam.
4. You MAY use a calculator if you have one on the exam. However, the test can be completed without the use of a calculator.
5. If you complete the test before the end of the period, *check your work*. Then you may place all papers upside down on your desk and sit *quietly*.
6. There will be **NO** talking and **NO** bathroom breaks until the conclusion of the exam.

1.) Name all the subsets of the real numbers to which belongs.

1. Rational, Real
2. Irrational, Real
3. Integer, Rational, Real
4. Irrational

2.) Name all the subsets of the real numbers to which belongs.

1. Rational, Real
2. Irrational, Real
3. Integer, Rational, Real
4. Irrational

3.) Name all the subsets of the real numbers to which belongs.

1. Whole, Integer, Rational, Real
2. Irrational, Real
3. Integer, Rational, Real
4. Natural, Whole, Integer, Real

4.) Simplify:

A) 76 B) -2 C) 40 D) 42

5.) Simplify:

A) 121 B) 169 C) 9 D) 269

6.) Evaluate for x = 3: 

A) 27 B) 33 C) 42 D) 15

7.) Evaluate for :

A) -1 B) 30 C) 11 D) -17

8.) Name the property illustrated by:

1. Inverse Property of Addition
2. Commutative Property of Multiplication
3. Commutative Property of Addition
4. Associative Property of Addition

9.) Name the property illustrated by:

1. Identity Property of Addition
2. Commutative Property of Addition
3. Associative Property of Addition
4. Inverse Property of Addition

10.) Simplify: 

A)  B)  C)  D) 

11.) Simplify: 

A)  B)  C)  D) 

12.) Simplify: 

A)  B)  C)  D) 

13.) Simplify: 

A)  B)  C)  D) 

14.) Simplify and write with positive exponents: 

A)  B)  C)  D) 

15.) Simplify and write with positive exponents: 

A)  B)  C)  D) 

16.) Simplify:

A)  B)  C)  D) 

17.) Simplify: 

A) -9 B) 6 C) 9 D) -6

18.) Simplify: 

A)  B)  C)  D) 

19.) If , find .

A)  B)  C)  D) 

20.) If , find .

A)  B)  C)  D) 

21.) Find the domain of the relation: .

A)  B)  C)  D) 

22.) Is the relation  a function?

A) Yes B) No C) Cannot be Determined

23.) 

A)  B)  C)  D) 

24.) 

A)  B)  C)  D) 

25.) 

A)  B)  C)  D) 

26.) 

A)  B)  C)  D) 

27.) 

A)  B)  C)  D) 

28.) 

A)  B)  C)  D) 

29.) 

A)  B)  C)  D) 

30.) 

A)  B)  C)  D) 

31.) 

A)  B)  C)  D) 

32.) 

A)  B)  C)  D) 

33.) 

A)  B)  C)  D) 

34.) Find the inverse of 

A)  B) 

C)  D) 

35.) Find the inverse of 

A)  B) 

C)  D) 

36.) Let g(x) be any function. Find the equation of the graph that will be obtained if the graph of y = g(x) is translated 4 units to the left and 2 units down.

A) y = g(x − 4) − 2 B) y = g(x − 2) − 4

C) y = g(x + 4) − 2 D) y = g(x + 2) − 4

37.) Which of the functions graphed below is one – to – one?

A) B)



C) D)



38.) Which of the following relations is **NOT** a function?

A) B)

 

C) D)

 

39.) Simplify:

A) B) C) D)

40.) Simplify:

A) B) C) D)

41.) Simplify:

A) 6i B) 6 C) -6 D) -6i

42.) Simplify: 

A) i B) 1 C) -1 D) –i

43.) Subtract:

A) B) C) D) No solution

44.) Multiply:

A) B) C) D)

45.) Multiply: 

A)  B)  C)  D) 

46.) Subtract: 

A)  B)  C)  D) 

47.) Rationalize: 

A)  B)  C)  D) 

48.) Factor: 

A)  B) 

C)  D) 

49.) Factor: 

A)  B)  C)  D) Not factorable

50.) Factor: 

A)  B)  C)  D) Not factorable

51.) Factor: 

A)  B)  C)  D) Not factorable

52.) Factor: 

A) (3x+7)(x-1) B) (x+7)(3x+1) C) (3x-7)(x+1) D) (3x-1)(x-7)

53.) Factor: 

A)  B) 

C)  D) 

54.) Factor completely: 

A)  B)  C)  D) Not factorable

55.) Factor completely: 

A)  B) 

C)  D) 

56.) Factor by grouping: 

A)  B)  C)  D) 

57.) Which direction does the graph of  open?

A) left B) right C) up D) down

58.) Find the axis of symmetry of .

A)  B)  C)  D) 

59.) Find the vertex of .

A)  B)  C)  D) 

60.) Which of the following functions has the narrowest graph?

A)  B)  C)  D) 

61.) Which quadratic will have a vertex that is a maximum?

A)  B) 

C)  D) 

62.) Find the y-intercept of .

A)  B)  C)  D) 

63.) Solve the quadratic: 

A)  B)  C)  D) 

64.) Solve the quadratic: 

A)  B)  C)  D) 

65.) Solve the quadratic: .

A)  B) 

C)  D) 

66.) Solve the quadratic: .

A)  B)  C)  D) 

67.) Solve using the quadratic formula: .

A)  B) 

C)  D) 

68.) Complete the square .

A)  B)  C)  D) 

69.) Find the discriminant of .

A)  B)  C)  D) 

70.) Find the number and type of solutions of .

A)  B)

C)  D) 